

Aircraft Sound Monitoring Study: Real Time Ops Data Collection

Department of the Navy



SOUND MONITORING

July 21, 2020



Meeting Agenda

- Real-time sound monitoring technical approach
- Real-time operational data requirements
- Installation ops data availability/sensitivity of data
- Proposed data collection procedures



Monitoring Study Goals

- Study Goals
 - Document monitored sound levels
 - Compare monitored sound levels with noise models
 - Recommend improvements to noise modeling process and tools (if applicable)
 - Share results with the public



Monitoring Approach: Airfields

- *Regular Operational Tempos around Airfields Require:*
 - Temporal sampling
 - Four (4) seven-day (continuous) sampling periods
 - One sampling period for each season at each location
 - One optional sampling period (5th), if required
 - Spatially distributed locations
 - Up to 12 sites per location
 - Utilize existing modeled scenarios for site selection
- *Collect Real-time Operational Data to Correlate to the Monitored Sound Data*



Monitoring Approach: Required Ops Data

- *Flight Operations at the Airfields:*
 - Runway
 - Aircraft
 - Operation
 - Specific operational type
 - Specific flight track
 - Time stamp
- *Static Operations at the Airfields:*
 - Pad location
 - Aircraft
 - Engine power script
 - Time stamp



Monitoring Approach: Required Ops Data Example

Aircraft	Profile	Track	Operation	Runway	Specific Ops Type	Num Day	Num Night	Num Total
EA-18G	226A	07A2A	Arrival	07	Arr EA VFR SI	1.274	0.095	1.369
	226B	07A2B		07	Arr EA VFR SI	0.892	0.066	0.958
	226C	07A2C		07	Arr EA VFR SI	0.382	0.028	0.411
	:	:		:	:	:	:	:
	239B	25O1B		25	Arr Overhead Break	5.600	0.541	6.142
	239C	25O1C		25	Arr Overhead Break	5.600	0.541	6.142
	:	:		:	:	:	:	:
	245	25AHT		25	Arr Hi TACAN	1.268	0.071	1.339
	246	32AHT		32	Arr Hi TACAN	0.096	0.005	0.101
	:	:		:	:	:	:	:
	213A	25D1A	Departure	25	Dep Standard	7.858	0.491	8.350
	214A	25D1B		25	Dep Standard	5.501	0.344	5.845
	215A	25D1C		25	Dep Standard	2.357	0.147	2.505
	:	:		:	:	:	:	:
	281A	07FM1	Closed Pattern	07	Pat FCLP at Ault	0.712	0.182	0.894
	281B	07FU1		07	Pat FCLP at Ault	0.712	0.182	0.894
	282A	14FM1		14	Pat FCLP at Ault	0.971	0.248	1.220
	282B	14FU1		14	Pat FCLP at Ault	0.971	0.248	1.220
	283A	25FM1		25	Pat FCLP at Ault	1.522	0.389	1.911
	283B	25FU1		25	Pat FCLP at Ault	1.522	0.389	1.911
	284B	32FU1		32	Pat FCLP at Ault	0.065	0.017	0.081
	:	:		:	:	:	:	:



Monitoring Approach: Available Data

(b) (5)

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Monitoring Approach: Available Data

(b) (5)



Monitoring Approach: Available Data

(b) (5)

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Discussion / Questions